

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended). A method for transmitting a packet at a code division multiple access (CDMA) media access control (MAC) layer control unit, ~~to transmit a the~~ packet data being transmitted between a mobile station (MS) and a base station (BS) in a CDMA mobile communication system including the MS and the BS, the method comprising the steps of:

- a) when the packet is generated, by a MAC layer control unit of the MS, determining a service option of the packet; and
- b) if the service option of the packet is a packet burst mode service, transmitting the packet via a common traffic channel (CTCH), and if the service option of the packet is a packet data mode service, by the MAC layer control unit of the MS, requesting to allocate a dedicated control channel (DCCH), receiving the DCCH, requesting to allocate a dedicated traffic channel (DTCH), receiving the DTCH, and transmitting the packet via the DTCH; and
- c) if the DTCH is not allocated before a control hold state timer is expired, transiting the MAC layer control unit of the MS to a suspended state or to a control hold state, wherein a probability of transiting to the suspended state equals $(1-\mu_D)/T_c$ and a probability of transiting to the control hold state equals $(1-\mu_D)(1-(1/T_c))$ where the μ_D denotes a request rate of the DTCH and T_c denotes a control hold state timer value.

Claim 2 (Original). The method as recited in claim 1, wherein the MAC layer control unit of the MS is transited to a suspended state, before determining the service option of the packet.

Claim 3 (Original). The method as recited in claim 1, wherein the MAC layer control unit of the MS requests a MAC layer control unit of the BS to allocate the DCCH.

Claim 4 (Previously Presented). The method as recited in claim 1, further comprising the step of:

if the DCCH is allocated before a suspended state timer is expired, transiting the MAC layer control unit of the MS to a control hold state, before requesting the MAC layer control unit of the BS to allocate the DTCH.

Claim 5 (Previously Presented). The method as recited in claim 1, further comprising the step of:

if the DTCH is allocated before a control hold state timer is expired, transiting the MAC layer control unit of the MS to an active state before transmitting the packet via the DTCH,
transmitting the packet, before an active state timer is expired and
after the active state timer is expired, transiting the MAC layer control unit of the MS to the control hold state.

Claims 6-8 (Canceled).

Claim 9 (Previously Presented). The method as recited in claim 4, further comprising the step of:

if the DCCH is not allocated before a suspended state timer is expired, transiting the MAC layer control unit of the MS to a dormant state or back to the suspended state.

Claim 10 (Canceled).

Claim 11 (New). A method for transmitting a packet at a code division multiple access (CDMA) media access control (MAC) layer control unit to transmit a packet data between a mobile station (MS) and a base station (BS) in a CDMA mobile communication system including the MS and the BS, the method comprising the steps of:

- a) when the packet is generated, by a MAC layer control unit of the MS, determining a service option of the packet;
- b) if the service option of the packet is a packet burst mode service, transmitting the packet via a common traffic channel (CTCH), and if the service option of the packet is a packet data mode service, by the MAC layer control unit of the MS, requesting to allocate a dedicated control channel (DCCH), receiving the DCCH, requesting to allocate a dedicated traffic channel (DTCH), receiving the DTCH, and transmitting the packet via the DTCH;
- c) if the DTCH is allocated before a control hold state timer is expired, (i) transiting the MAC layer control unit of the MS to an active state before transmitting the packet via the DTCH, (ii) transmitting the packet, before an active state timer is expired and (iii) after the active state timer is expired, transiting the MAC layer control unit of the MS to a control hold state; and
- d) if the DTCH is not allocated before a control hold state timer is expired, transiting the MAC layer control unit of the MS to a suspended state or back to a control hold state, wherein a probability of transiting to the suspended state equals $(1-\mu_D)/T_c$ and a probability of transiting back to the control hold state equals $(1-\mu_D)(1-(1/T_c))$ where the μ_D denotes a request rate of the DTCH and T_c denotes a control hold state timer value.

Claim 12 (New). A method for transmitting a packet at a code division multiple access (CDMA) media access control (MAC) layer control unit to transmit a packet data between a mobile station (MS) and a base station (BS) in a CDMA mobile communication system including the MS and the BS, the method comprising the steps of:

- a) when the packet is generated, by a MAC layer control unit of the MS, determining a service option of the packet;
 - b) if the service option of the packet is a packet burst mode service, transmitting the packet via a common traffic channel (CTCH), and if the service option of the packet is a packet data mode service, by the MAC layer control unit of the MS, requesting to allocate a dedicated control channel (DCCH), receiving the DCCH, requesting to allocate a dedicated traffic channel (DTCH), receiving the DTCH, and transmitting the packet via the DTCH;
 - c) if the DCCH is allocated before a suspended state timer is expired, transiting the MAC layer control unit of the MS to a control hold state, before requesting the MAC layer control unit of the BS to allocate the DTCH; and
 - d) if the DCCH is not allocated before a suspended state timer is expired, transiting the MAC layer control unit of the MS to a dormant state or back to a suspended state,
- wherein a probability of transiting to the dormant state equals $(1-\lambda_D)/T_s$ and a probability of transiting back to the suspended state equals $(1-\lambda_D)(1-(1/T_s))$ where the λ_D denotes a request rate of the DCCH and T_s denotes a suspended state timer value.